|  |  |
| --- | --- |
|  | **Science 2023-2024** |
| **Year** | **Autumn A** | **Autumn B** | **Spring A** | **Spring B** | **Summer A** | **Summer B** |
| **N** | **My Little World*** Explore natural materials, indoors and outside.
* Make  respectful observations of living things.
* Enjoy transporting.
* Actively explore the properties of everyday materials through spontaneous experimentation, narrating findings.

**Experiment:** Skittle Colour Mixing - why have the Colour Monster’s sweets lost their colours? | **Starry, Starry Night** Forest school-Using tools, change of matter, weekly cooking* Use some very simple adjectives to describe the sensory properties of everyday materials.
* Respond appropriately to living things with care.

**Experiment:** Exploring Changing States - What happens to the ingredients when we make our playdough? Can you change it back again? | **Winter Wonders*** Collect particular materials for a purpose.
* Make mechanisms such as pegboard cogs and other simple construction kit components such as wheels and axles work to a particular end.
* Respond appropriately to adult guidance to treat living things with care.

**Experiment: Ice** Melting - How can we rescue the animals that are trapped in the ice? | **Once Upon a Time*** Work alongside adults imitating their actions as they care for living things.
* Collect materials for a particular purpose and explain.
* Create own action and reaction games such as water flow structures and simple wheeled vehicles from construction kits.
* Give very simple explanations of how they work

**Experiment:** Exploring Materials - How can we stop Humpty Dumpty from cracking? | **Mad About Mini-Beasts*** Actively explore the properties of everyday materials through spontaneous experimentation.
* Work alongside adults imitating their actions as they care for living things.
* Narrate, a stage at a time, the way a growing plant or animal is changing.

**Experiment:** Planting and fair testing - What do plants need to grow?  | **Let’s Explore*** Answer closed and anticipatory questions in simple adult led experiments about the properties of materials
* Work alongside adults imitating their actions as they care for living things. Narrate a stage at a time the way a growing plant or animal is changing.

**Experiment:** Floating and Sinking - how many people can your tinfoil boat carry? |
| **R** | **Pleased to meet you*** Name plants and  parts of plants  - link to harvest.
* Explore the natural world around them. (Living things and their habitats)
* Talk about members of their immediate family and community (Name and describe people who are familiar to them.)
* Understand and demonstrate fire safety skills
* Talk about change of state of materials - combining ingredients for cooking - damper bread
 | **Magic Moments*** Describe changes to trees and woodland plants in autumn observe how animals behave differently as seasons change
* Note and record the weather.
* Know and demonstrate how to plant bulbs. Predict how it will grow.
* Talk about change of state of materials - salt dough, sugar, chocolate, marshmallows
 | **Superheroes*** Describe changes to trees and woodland plants in winter.  Provide opportunities for children to note and record the weather.
* Observe and interact with natural processes(ice melting/sound vibrations/light travelling through transparent materials /shadows/magnets/floating)
* Describe and explain changes of state with water
* Talk about change of state of materials - combining ingredients for cooking (Mother’s day scones/flapjacks/rocky road)
 | **Stepping into Spring*** Describe and explain changes of state with chocolate
* Know and demonstrate how to grow seeds and care for seedlings (seeds/chopping fruit and veg)
* Understand the key features of the life cycle of a plant and an animal.
* Sequence the life of a baby bird from hatching to maturity.
* Observe how animals behave differently as the seasons change.
 | **The Great Outdoors*** Describe changes to trees and woodland plants in spring. Provide opportunities for children to note and record the weather.
* Name locality features on the route to the library. Draw and label geographical features on the route.
* Observe and interact in  first hand scientific explorations of animal life cycles.
* Recognise some environments are different to the one in which they live.

Food prep - chopping and peeling | **Brilliant Beaches and Underwater Worlds*** Describe changes to trees and woodland plants in summer. Provide opportunities for children to note and record the weather.
* Identify similarities and differences between the animals and plants in the beach environment and in the woodland environment.
 |
| **1** | **Seasonal Changes - Ongoing each half term.****To observe changes across the 4 seasons****To observe and describe weather associated with the seasons and how day length varies**Be aware that it is not safe to look directly at the sun, even when wearing dark glasses. |
| 1 | Our BodiesTo identify and name main body partsTo talk about main body parts and their function.To name the 5 senses and body parts associated with themThrough practical activities and  experiments ask questions and talk about findings. | Everyday Materials To distinguish between an object and the material from which it is made. To identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock.  To describe the simple physical properties of a variety of everyday materials. To compare and group together a variety of everyday materials on the basis of their simple physical properties.B | Animals Including Humans To identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. To identify and name a variety of common animals that are carnivores, herbivores and omnivores. To describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets). To identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.  | PlantsTo identify and name a variety of common wild and garden plants, including deciduous and evergreen treesTo identify and describe the basic structure of a variety of common flowering plants, including trees. |
| 2 | Living things and their Habitats- To explore and compare the differences between things that are living, dead, and things that have never been alive. To identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other. To identify and name a variety of plants and animals in their habitats, including microhabitats. To describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.  | Uses of Everyday MaterialsTo identify and compare the suitability of a  variety of everyday materials, including wood,  metal, plastic, glass, brick, rock, paper and  cardboard for particular uses To find out how the shapes of solid objects made  from some materials can be changed by squashing,  bending, twisting and stretching. | Animals Including Humans & Seasonal ChangeTo notice that animals, including humans, have offspring which grow into adults. Be introduced to the processes of  reproduction and growth in animals.  | Plants To observe and describe how seeds and bulbs grow  into mature plants To find out and describe how plants need water,  light and a suitable temperature to grow and stay  healthy. | Animals Including HumansTo find out about and describe the basic needs of animals, including humans, for survival (water, food and air) To describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene. |
| 3 | Rocks, Soils and FossilsCompare and group together different kinds of rocks on the basis of their appearance and simple physical properties. Describe in simple terms how fossils are formed when things that have lived are trapped within rock.Recognise that soils are made from rocks and organic matter.Test the properties of rocks. | Forces & Magnets To compare how things move on different  surfaces. (friction)To notice that some forces need contact between  2 objects, but magnetic forces can act at a  distance.To observe how magnets attract or repel each  other and attract some materials and not others.To compare and group together a variety of  everyday materials on the basis of whether they  are attracted to a magnet, and identify some  magnetic materials.To describe magnets as having 2 poles.To predict whether 2 magnets will attract or repel  each other, depending on which poles are facing. | Animals including humansTo identify that humans and some other animals  have skeletons and muscles for support, protection and movement. To identify that animals, including humans, need  the right types and amount of nutrition, and that  they cannot make their own food; they get nutrition from what they eat.  | PlantsIdentify, know and describe the functions of different parts of flowering plants: roots, stem/truck, leaves and flowers.Explore and know the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant. Investigate and understand the way in which water is transported within plants. Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal | Light & Shadows Recognise that they need light in order to see things and that dark is the absence of light.Notice that light is reflected from surfaces. Recognise that light from the sun can be dangerous and that there are ways to protect the eyes.  Recognise that shadows are formed when light from a  light source is blocked by a solid object. Find patterns in the way that the size of shadows change.Light & ShadowsThink about why it is important to protect  their eyes from bright lights.   Understand that it is not safe to look  directly at the sun, even when wearing dark  glasses.  Observe and measure shadows, and find out  how they are formed and what might cause  the shadows to change.  |
| 4 | States of Matter Compare and group materials together, according to whether they are solids, liquids or gases. Observe that some materials change state when they are heated or cooled, and measure the temperature at which this happens in degrees Celsius (°C), building on their teaching in mathematics. Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.  | Electricity Identify common appliances that run on electricity.Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers.Identify whether or not a lamp will light in a simple series circuit based on whether or not the lamp is part of a complete loop with a battery. Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit.Recognise some common conductors and insulators and associate metals with being good conductors. | Animals including HumansTo describe the simple functions of the basic parts of the digestive system in humans. Draw and discuss their ideas about the digestive system and compare them with models or images. To identify the different types of teeth in humans and their simple functions.Compare the teeth of carnivores and herbivores and suggest reasons for differences. | Animals including humans Continued Teeth continued:  To identify the different types of teeth in humans and their simple functions.Compare the teeth of carnivores and herbivores and suggest reasons for differences.Food chains To construct and interpret a variety of food chains, identifying producers, predators and prey.  | Sound Identify how sounds are made, associating some of them with something vibrating. Recognise that vibrations from sounds travel through a medium to the ear. Find patterns between pitch of a sound and features of the object that produced it. Teach this last. Find patterns between the volume of a sound and the strength of the vibrations that produced it. Recognise that sounds get fainter as the distance from the sound’s source increases. Teach this first.  | Living Things & HabitatsIdentify and name a variety of living things (plants and animals) in the local and wider world.Give reasons for classifying plants and animals based on specific characteristics.Recognise that environments are constantly changing and that this can sometimes pose dangers to specific habitats. Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution. |